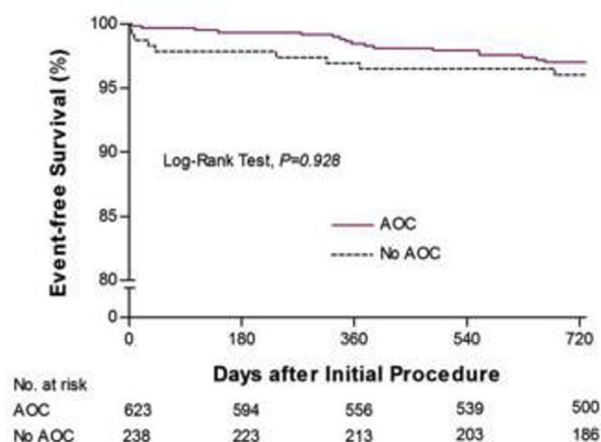


All-cause mortality



Conclusions: In LMCA stenosis without significant aorto-ostial stenosis, both strategies of with or without aorto-ostial coverage showed similar clinical outcomes at 2 years.

TCT-224

Trends in Revascularization Strategy and Outcomes in Left Main Stenosis: Data from ASAN MAIN Registry

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Background: Changes in revascularization strategies and outcomes among patients with significant unprotected left main coronary artery (LMCA) stenosis remain largely unknown.

Methods: A total of 2618 consecutive patients with LMCA stenosis undergoing revascularization treatment between 1995 and 2010 were identified from ASAN MAIN registry. Patients were classified into three periods: bare metal stent (WAVE1) period (1995-1998), early drug-eluting stent (WAVE2) period (2003-2006), and late drug-eluting stents (WAVE3) period (2007-2010). The major adverse cerebro-cardiovascular events (MACCE) were defined as death, myocardial infarction, repeat revascularization, or stroke at 2-years.

Results: The major adverse cerebro-cardiovascular events (MACCE) were defined as death, myocardial infarction, repeat revascularization, or stroke at 2-years. During study periods, 1124 patients underwent percutaneous coronary intervention (PCI) with stent and 1494 patients underwent coronary artery bypass grafting (CABG). The proportion of PCI significantly increased from 35% to 52%. Among patients receiving PCI, the risk-adjusted incidence rate of MACCE decreased from 20.18 cases per 100 person-years in WAVE1 to 6.77 cases per 100 person-years in WAVE3 ($P < 0.001$ for trend). Death, the composite of death, myocardial infarction, or stroke, and repeat revascularization were also significantly decreased by 40%, 35%, and 46%, respectively. However, among patients receiving CABG, the risk-adjusted incidence rate of MACCE was not significantly changed during study period. In addition, the difference in the risk of MACCE between PCI and CABG progressively reduced (adjusted hazard ratio [95% confidence interval]: 0.33 [0.23-0.47], 0.53 [0.35-0.80], and 1.01 [0.68-1.49] from WAVE1 through WAVE3).

Conclusions: The outcomes of PCI for LMCA stenosis have significantly improved and PCI has successfully substituted CABG in a significant proportion of patients with LMCA stenosis.

TCT-225

Dedicated Bifurcation BioSS® Stent In The Treatment Of Distal Left Main Stem Stenosis – International Registry

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Background: The aim of this study was to assess efficacy and safety profile of distal LM stenosis treatment with dedicated bifurcation BioSS stents (Balton, Poland): in

group I - paclitaxel-eluting BioSS Expert® and in group II - sirolimus-eluting BioSS LIM®.

Methods: Patients with CAD or NSTEMI-ACS were enrolled between January 2011 and June 2013 in three centers in Bulgaria, Poland and Spain. Decision for LM stenting was based on Heart Team consensus. Provisional T-stenting was default strategy. Control angiography was planned at 12 months in all patients. The primary end point is MACE at 12 months. Here, we present 6-month clinical data from both groups and completed angiographic data from BioSS Expert. At the time of TCT 2014 angiographic data from BioSS LIM will be completed.

Results: There were enrolled 158 patients (62 in BioSS Expert group and 96 in BioSS LIM group). The average age was 65.7 ± 12.5 yrs and 19.7% were female. In the study 17.8% of patients were with NSTEMI-ACS, 73.4% with hypertension, 81.4% with dyslipidemia, 32.1% with diabetes, 39.2% with prior MI, 43.3% with prior PCI and 17.4% with prior CABG. The mean SYNTAX score was 21.52 ± 6.58 . True bifurcations were treated in 70.1% of cases. All BioSS® stents were implanted successfully. The nominal stent parameters were as followed: BioSS Expert group: 4.07 ± 0.26 mm (proximal diameter) x 3.36 ± 0.26 mm (distal diameter) x 16.61 ± 1.72 mm (length) and BioSS LIM group: 3.90 ± 0.4 mm x 3.17 ± 0.39 mm x 16.81 ± 2.06 mm. Classical DES in side branch was implanted in 25.9% and 21.4%, respectively. Almost 62% of procedures were done from radial access and 83% with 6F catheter. After 12 months in BioSS Expert group angiographically-driven TLR rate was 9.6%, whereas clinically-driven TLR was 3.2%. In BioSS LIM group data are pending - at 6 months there were no death or MI. In BioSS Expert group late lumen loss was as follows: in main vessel - 0.21 ± 0.1 mm, in main branch - 0.26 ± 0.12 mm and in side branch - 0.14 ± 0.09 mm.

Conclusions: Dedicated bifurcation BioSS stents seem feasible devices with promising effectiveness and safety profile in distal LM stenosis. Complete BioSS LIM data facilitate to answer the question if the used drug or stent design is more crucial.

TCT-226

Impact of Final Kissing Balloon Inflation Following Single-stent Strategy in Unprotected Left Main Lesion

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Background: Final kissing balloon inflation (FKBI) is a mandatory technique in unprotected left main (ULM) revascularization with 2-stent strategy. However, there is no consensus regarding the necessity of FKBI in single-stent strategy. Therefore, to assess the need of FKBI for single-stent strategy in ULM lesion, we compared clinical outcome between patients treated using single-stent strategy with FKBI and those without FKBI.

Methods: A total of 654 consecutive patients who had ULM lesion were treated using drug-eluting stent between April 2005 and August 2010. Of these, 470 patients were eligible in this study after exclusion of 21 patients with ostial ULM and 163 patients treated using 2-stent strategy. In patients using single-stent strategy, 357 patients were proceeded with FKBI (FKBI group) and 113 patients were without FKBI (no-FKBI group). The end point of this study is the occurrence of Major Adverse Cardiovascular Event (MACE) defined as composites of all cause death, target lesion revascularization (TLR) and MI. Furthermore, overall TLR, TLR for main branch (TLR-MB) involving ULM to left anterior descending artery and TLR for side branch alone (TLR-SB) involving left circumflex (LCx) at 1-year were evaluated.

Results: Patient and lesion characteristics were similar between the 2 groups. Following single-stent strategy, 36 patients (8.9%) necessitated an additional bailout stenting for ostial LCx stenosis. In the total population, the occurrence of MACE at 1 year is similar between the two groups (7.4% in the FKBI group and 11.9% in the no FKBI group, log rank $p=0.112$). The incidences of overall TLR, TLR-MB and TLR-SB at 1 year were also similar between FKBI group vs. no-FKBI group (7.0% vs. 9.3%, $p=0.44$, 2.5% vs. 4.7%, $p=0.24$ and 5.0% vs. 5.6%, $p=0.81$, retrospectively).

Conclusions: Single-stent for ULM disease was feasible at mid-term follow-up. However, FKBI had no impact on clinical outcome following ULM revascularization with single-stent strategy.

TCT-227

Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting for Unprotected Left Main Stenosis with Severe Left Ventricular Dysfunction: Data from ASAN MAIN Registry

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Background: Unprotected left main coronary artery (ULMCA) stenting has been investigated as an alternative to coronary artery bypass grafting (CABG). However, long-term benefits of PCI or CABG in patients with ULMCA disease and severe left ventricular dysfunction (LVD) have not been established.

Methods: Between March 1992 to February 2011, a total of 213 patients with significant ULMCA disease and severe LVD (ejection fraction [EF] of 40% or less) who underwent PCI (42 patients) or CABG (171 patients) were identified from ASAN MAIN Registry. Primary endpoint was all-cause death at 2 years.

Results: Pre-procedural EF was not different between two groups (34.3 ± 5.9 vs. $32.4 \pm 6.2\%$, $P=0.10$). The CABG group included more patients with triple-vessel disease ($P<0.001$) and the PCI group included more patients with presenting with myocardial infarction (MI) ($P=0.002$). At 2 years, death occurred in 7 (17.1%) of the PCI group and 27 (15.7%) of the CABG group ($P=0.73$). The composite of death, MI or stroke occurred in 8 (19.5%) of the PCI group and 30 (17.4%) of the CABG group ($P=0.63$). The rates of target-vessel revascularization were significantly higher in the PCI group (4.9% vs. 0%, $P=0.003$). After adjustment for the baseline characteristics, hazard ratio was 0.94 (95% CI, 0.39~2.23; $P=0.88$) for death; 0.99 (95% CI, 0.44~2.23; $P=0.98$) for the death, MI, or stroke; 186.6 (95% CI, contain 0; $P=0.58$) for target-vessel revascularization.

Conclusions: In patients with ULMCA disease and severe LVD, PCI and CABG showed similar clinical outcomes at 2 year follow-up.

TCT-228

Long-term Safety and Efficacy of Sirolimus Eluting Stent Implantation for Unprotected Left Main Trunk Bifurcation Lesion with Single Stent Strategy Versus Left Anterior Descending Artery Lesion

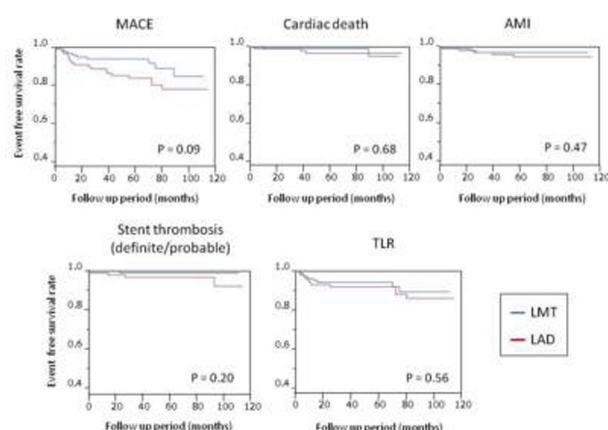
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Background: Percutaneous coronary intervention (PCI) for unprotected left main trunk (ULMT), especially with single stent strategy, has favorable outcome with advent of drug eluting stent (DES). Direct comparison of the outcome between PCI with single stent strategy for ULMT bifurcation lesion and left anterior descending artery (LAD) is lacking. The aim of this study is to testify the long-term feasibility of PCI for ULMT bifurcation lesion with single stent strategy by comparison with LAD lesion.

Methods: We investigated retrospectively 105 consecutive patients (mean age: 69.3 years old, female: 21.0% and diabetes mellitus: 38.1%) who were treated by sirolimus eluting stent (SES) implantation with single stent strategy for ULMT bifurcation disease from August 2004 to December 2010 in our center. We compared them with a matched group of 105 patients who underwent SES implantation for LAD lesion with the same strategy. Matching criteria was identical age, gender and presence of diabetes mellitus. All the cases were done with intravascular ultrasound guidance. We assessed occurrence of MACE (a composite of cardiac death, non-fatal acute myocardial infarction (AMI) and target lesion revascularization (TLR)), cardiac death, AMI, stent thrombosis and TLR. Mean follow-up period was 65.3 ± 28.4 months.

Results: There were no statistical differences in MACE and other endpoints between the two groups (Figure). A favorable trend for ULMT lesion was shown in MACE ($p=0.09$).



Conclusions: DES implantation with single stent strategy for ULMT bifurcation lesion provides as feasible long-term outcome as for LAD lesion.

TCT-229

First generation versus new generation drug-eluting stents for the treatment of ostial/midshaft lesions in unprotected left main coronary artery: The Milan and New-Tokyo (MITO) registry

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Background: Clinical outcomes after treatment of ostial/midshaft lesions in unprotected left main coronary artery (ULMCA) with first generation drug-eluting stents (DES) have been found to be favorable. However, to date, data regarding new generation DES for these lesion subsets have not been reported. The aim of this study was to compare the clinical outcomes following ULMCA percutaneous coronary intervention (PCI) of ostial/midshaft lesions with first versus new generation DES.

Methods: A total of 219 patients from the Milan New-Tokyo (MITO) registry with ostial/midshaft lesions in ULMCA treated with first (n=139) or new generation DES (n=80) were analyzed.

Results: The first generation DES group had more males (78.4% vs. 63.8%, $p=0.026$). There was a higher prevalence of IVUS use (35.2% vs. 50.0%, $p=0.032$) and post-dilation (70.5% vs. 93.8%, $p<0.001$) with larger maximum balloon diameter (3.81 ± 0.45 vs. 4.08 ± 0.44 , $p<0.001$) in the new generation DES group. At a median follow-up period of 730 days, there were no significant differences in the propensity-score adjusted analyses, for major adverse cardiac events (MACE) defined as composite endpoint of all-cause death, myocardial infarction and target vessel revascularization (HR [new vs. first generation DES]: 1.22; 95% CI: 0.64 to 2.31; $p=0.549$). Of note, target lesion revascularization rates at 2-years were only 0.9% and 2.7%, for first and new generation DES groups, respectively ($p=0.339$). On multivariable analysis, SYNTAX score (HR: 1.06; 95% CI: 1.02-1.11, $p=0.006$) and EuroSCORE (HR: 1.14; 95% CI: 1.00-1.31, $p=0.051$) were independent predictors for MACE.

Conclusions: This study suggests that new generation DES for ostial/midshaft lesions in ULMCA are associated with favorable clinical outcomes, comparable to those observed with first generation DES.

TCT-230

Distal LMCA Lesions Treated with DES and Absorb. The Novel Technique. 30 Day Follow-up

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Background: Percutaneous coronary intervention (PCI) with drug eluting stent (DES) implantation for left main coronary artery (LMCA) stenosis has been shown to be a feasible and safe approach. However, optimal stenting technique is still under discussion. Our goal is to evaluate safety and efficacy of novel stenting technique in LM distal lesions - intravascular ultrasound (IVUS) guided and optical coherence tomography (OCT) optimized everolimus eluting platinum chromium stent (SYNERGY) and bioresorbable coronary scaffold (ABSORB) implantation.

Methods: 31 patient with distal LMCA are enrolled in ongoing study at Latvian Center of Cardiology. All interventions were IVUS guided and OCT optimized. Plaque modification with cutting balloon before stenting was performed. SYNERGY stent was implanted across the CX followed by ABSORB implantation at the proximal CX. Procedure is finished with "kissing" post-dilation. 12-month angiographic, IVUS and OCT follow-up is ongoing.

Results: All patients underwent the procedure due to stable angina, 25 (81%) of them were males. Mean patient age was 62 ± 11 years, 26 (85%) of them were hypertensive with dyslipidemia, 7 (23%) suffered from diabetes mellitus and were smokers. Mean SYNTAX score 27.6 ± 2.6 . Synergy stent length implanted in LM-LAD was 23 ± 6.53 mm, diameter 3.75 ± 0.27 mm. Mean Absorb scaffold length implanted in LM-LCX was 16 ± 3.10 mm, diameter 3.2 ± 0.52 mm. Stenting technique: modified T stenting 10 cases, mini - Crush 21. There were no procedural complications. No major cardiac adverse events occurred during hospitalization period and 30 day follow-up.

Conclusions: The current study demonstrates that novel LMCA stenting technique using SYNERGY stent and ABSORB scaffold is safe and feasible. No serious